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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/464,264	12/17/1999	Russell J. Wilcox	INK-067	7307

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TESTA, HURWITZ & THIBEAULT, LLP
HIGH STREET TOWER
125 HIGH STREET
BOSTON, MA 02110

EXAMINER

MILLER, MARTIN E

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 06/03/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/464,264

Applicant(s)

WILCOX ET AL

Examiner

Martin Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Claims 1, 25, 26, 30 and 43-45 have been amended per applicant's amendment filed March 20, 2003.

Response to Arguments

2. Applicant's arguments with respect to claims 1-46 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1, 2, 6-13, 16-20, 23-25 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheridan, US 4126854 and Lane, US 5623552.

As per claim 1, Sheridan teaches:

an object having a first surface (fig. 1, element 6);

said marker comprising:

an electrophoretic display medium (fig. 1, element 4) having a display state (col. 4, ll. 29-31), a first surface (fig. 1, element 3), a second surface (fig. 1, element 6); and a plurality of electrophoretic particles disposed between said first and second surfaces; and

a first electrode disposed adjacent said first surface of said electrophoretic display (fig. 2, element 10');

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wherein said display state changes as result of movement by said electrophoretic particles in response to an electric field applied through said first electrode and to said display medium (col. 4, ll. 11-20).

However, Sheridan only teaches the electrophoretic display, Sheridan does not teach that the display is an authentication marker. However, Lane teaches:

an authentication marker (display, fig. 3) disposed on said first surface of said object (fig. 2, element 8).

It would have been obvious to one of ordinary skill in the art to use the display of Sheridan as the authentication marker display of Lane to provide the visual indication that the sensed fingerprint information matches the stored fingerprint information to provide an additional level of security by requiring the fingerprints to match before displaying certain information of the display.

As per claims 25 and 43, repeat substantially the same limitations as claim 1 above and analogous remarks apply.

As per claim 2, Sheridan teaches:

a second electrode (fig. 2, element 12') disposed adjacent to said second surface (fig. 2, element 15) of said electrophoretic display medium.

As per claim 6, Sheridan teaches:

wherein said electrical signal comprises an electrical field applied between said first and second electrodes (fig. 2, elements 10' and 12').

As per claims 7 and 8, they recite substantially the same limitations as claims 3 and 4 above and analogous remarks apply.

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As per claims 9, Sheridan teaches:

wherein said electrophoretic display medium comprises at least one microencapsulated electrophoretic particle (figure 2, element 14).

As per claim 10, Sheridan teaches:

wherein said display state is an optical property. A display state is an inherently optical property (col. 4, ll. 19-20).

As per claim 11, Sheridan teaches:

wherein said change in said display state comprises a change to a substantially transparent ("light spot on black background", col. 4, ll. 19-20) optical property.

As per claim 12, Sheridan teaches:

wherein said change in said display state comprises a change to a substantially opaque ("black spot on white background", col. 4, ll. 21-27) optical property.

As per claim 13, Sheridan teaches:

wherein the display state is an impedance ("more negative electrode", col. 4, ll. 13-15) based upon the impedances of the the amount of current required to change display states will be based upon the amount of resistance in the ink, col. 3, ll. 63-66 and col. 4, ll. 30-33).

As per claim 16, Sheridan teaches:

wherein said electrophoretic display medium is disposed on said first electrode (fig. 2, elements 10' and 15).

As per claim 17, Sheridan teaches:

wherein said first electrode is a conductive substrate ("magnetic layer", fig. 2, element 10' and 12', col. 4, ll. 12-15).

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As per claim 18, Lane teaches:

wherein said object is selected from the group consisting of currency, stock certificates, bond certificates, negotiable instruments, debit cards, credit cards (col. 1, l. 18), and smart cards.

As per claim 19, Sheridan teaches:

wherein the authentication marker is affixed to said first surface of said object (fig. 2, element 6 is the first surface and element 15 is the authentication marker affixed to element 6).

As per claim 20, Sheridan teaches:

a second electrode (col. 4, ll. 13-14) adapted to interact with said authentication marker wherein said display state changes in response to an electrical signal communicated between said first electrode and said second electrode (col. 4, ll. 10-25).

As per claim 23, Lane teaches:

wherein said second electrode is in communication with a validation machine (col. 6, ll. 29-43).

As per claim 24, Lane teaches:

a timer in communication with said authentication marker (col. 6, ll. 2-12). If the use is not authenticated then the account information is not loaded from memory.

5. Claims 3-5, 14, 15, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheridan and Lane as applied to claim 1 and further in view of Ota, US 3668106.

As per claim 3, Lane does not specifically state what the display actually displays and Sheridan displays whatever is supposed to be displayed, however, OTa teaches:

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wherein at least one of said first electrode and said second electrode is disposed in a pattern forming text ("E ", fig. 5, element 23). It would have been obvious to one of ordinary skill in the art to display some form of text message, such as "OK", "Valid User", or "Mr. Jones' Card" when the user is authenticated and the authentication signal is transmitted to the display of Sheridan.

As per claim 4, Ota teaches:

wherein at least one of said first electrode and said second electrode is disposed in a pattern forming an image (an "E" is an image, col. 5, ll. 33-40, but Ota goes on to teach that smaller picture elements can be formed, col. 6, ll. 25-32, and it is obvious that a variety of images can be made with picture elements). It would have been obvious to one of ordinary skill in the art to display some form of image or icon as taught by Ota when the user is authenticated and the authentication signal of Lane is transmitted to the display of Sheridan.

As per claim 5, neither Sheridan or Lane specifically teach transparent electrodes, however, Ota teaches:

wherein at least one of said first and second electrode is substantially clear (transparent , col. 5, ll. 14-15).

It would have been obvious to one of ordinary skill in the art to use the suggestion of Ota to create a system that reveals obscured information via a transparent wall that can be used as an electrode in the display of Sheridan by using the well known principles taught by Ota in the authentication display of Lane so as to create changeable displays.

As per claim 14, neither Sheridan or Lane specifically teach that their displays reveal or obscure the display, however, Ota teaches:

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wherein said change in said display state comprises a change to reveal text obscured by said electrophoretic display medium (col. 3, ll. 8-17 and col. 5, ll. 5-12). It would have been obvious to one of ordinary skill in the art to use the suggestion of Ota to create a system that reveals obscured information in the display of Sheridan by using the well known principles taught by Ota in the authentication display of Lane so as to create changeable displays.

As per claim 15, neither Sheridan or Lane specifically teach that their displays reveal or obscure the display, however, Ota teaches:

wherein said change in said display state comprises a change to reveal an image obscured by said electrophoretic display medium (col. 3, ll. 8-17 and col. 5, ll. 5-12).

As per claim 21, Ota teaches:

wherein said second electrode is an electrostatic head (fig. 8A, element 30).

As per claim 22, Ota teaches:

wherein said second electrode is a charged stylus (col. 6, ll. 70-75).

6. Claims 26-28, 30-41 and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota, US 3668108 and Lane.

As per claim 26, Lane teaches a security document (driver's license, credit card, col. 1, ll. 15-20) having a display (col. 2, ll. 38-44, col. 6, ll. 34-36), however, Lane does not teach the details of the display. However, Ota teaches:

a conductive substrate(first electrode, fig. 5, element 23, col. 5, ll. 29-30) having a surface and having a message (E-shaped pattern, col. 5, ll. 29-30 and fig. 5) disposed on said surface; and

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an electrophoretic display medium (col. 5, ll. 36-38) having a first display state (col. 5, ll. 33-48) and a second display state (different color, col. 5, ll. 38-40) and disposed adjacent said conductive substrate;

wherein said first display state changes in response to a first electrical signal (col. 5, ll. 33-38) communicated to said conductive substrate to reveal ("displayed on transparent", col. 5, ll. 37) said message and said second display state changes in response to a second electrical signal (col. 5, ll. 38-40) communicated to said conductive substrate to obscure (hidden by residual colored component, col. 5, ll. 7-12) said message.

It would have been obvious to one of ordinary skill in the art to use the display of Ota in place of the display of Lane to provide the further security of "hiding" account or value information from being seen by the casual observer when the card is in public by requiring the proper control signals to reveal the account information. Additionally, the display of Lane and the display of Ota are functionally equivalent.

As per claim 27, Ota teaches:

wherein said message comprises text (E, fig. 5).

As per claim 28, Ota teaches:

wherein said message comprises an image (E, fig. 5, text is an image, see also, col. 6, ll. 25-32).

As per claims 30-32, they recite substantially the same limitations as claims 26-28 above and analogous remarks apply.

As per claim 33, Ota does not specifically teach that he uses conductive ink, however, his electrophoretic material is the functional equivalent of conductive ink (col. 3, ll. 17-25).

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As per claim 34, Ota teaches:

wherein at least one of said first and second electrical signals comprises an electrical field applied between said first electrode and said conductive ink (col. 3, ll. 17-25, the electrophoretic materials are drawn to one electrode and thereby the electric field is applied to the particles via the other electrode.)

As per claim 35, Ota teaches:

a second electrode disposed adjacent said substrate (fig. 1b, element 8 or 9) and adjacent said electrophoretic display medium.

As per claim 36, Ota teaches:

wherein at least one of said first electrical signal and said second electrical signal comprises an electrical field applied between said first electrode and said second electrode (fig. 1a, elements 10 and 11).

As per claims 44 and 45, it recites substantially the same limitations as claim 30 above and analogous remarks apply except for the following:

the last two limitations of Claim 44 require a first and second electrical signal, but it is inherent in Ota that the optical properties of the liquid crystal are changed one way by the electric or magnetic field and to reverse that change one merely reverses the electric or magnetic field (fig. 1a, elements 10 and 11).

As per claim 37, Ota teaches:

a second electrode adapted to interact with said electrophoretic display medium (fig. 8A, element 30).

As per claim 38, Ota teaches:

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wherein said second electrode is an electrostatic head (fig. 8A, element 30).

As per claim 39, Ota teaches:

wherein said second electrode is a charged stylus (col. 6, l. 70).

As per claim 40, Lane teaches:

wherein said second electrode is in communication with a validation machine (col. 6, ll. 35-43).

As per claim 41, Lane teaches:

a timer in communication with said electrophoretic display medium (col. 6, ll. 7-12).

As per claim 46, Ota teaches:

disposing a shield on said surface (fig. 5, element 4, said shield comprising a first clear electrode (24), an electrophoretic display media having a display state (col. 5, ll. 33-40) and disposed on the first electrode, and a second electrode (23) disposed adjacent the display media; and communicating a first electrical signal between said first clear electrode and said second electrode to shield said message (col. 5, ll. 7-12).

7. Claims 29 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota, US 3668108 and Lane, further in view of Sheridan.

As per claims 29 and 42, Lane teaches only a credit card with a display. Ota teaches using an electrophoretic display but not specifically microencapsulated electrophoretic particles, However, Sheridan teaches:

wherein said electrophoretic display medium comprises at least one (fig. 2, element 14).

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It would have been obvious to one of ordinary skill in the art to use the particles of Sheridan with opposite hemispheres charged differently (col. 4, ll. 10-11) in the display of Ota and Lane so that more display options are available besides having particles of only one color available, possibility of multiple colors would allow other messages to be hidden.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Miller whose telephone number is (703) 306-9134. The examiner can normally be reached on Monday-Friday, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

mem

mem

May 29, 2003


AMELIA M. AU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600